BASF

The Chemical Company

Experimental Report

Reproduction and characterization of the catalyst from US patent 5,852,219, example 1

1. γ-Al_2O_3 (extrudates, 4 mm) was firstly pretreated at 455° in air for 4 hours. The material then had a water uptake capacity of 60%. A solution of 12.2 g of tungstic acid H_2WO_4, 14 ml of water and 26 ml of a 25% strength aqueous ammonia solution was heated to 50°C and combined with a solution of 16.3 g of cesium hydroxide in 17 ml of water. The pretreated γ-Al_2O_3 was then impregnated with the solution which had been heated to 50°C (impregnation to pore volume) and the total mixture was allowed to stand for 16 hours at room temperature. The sample was subsequently dried at 160°C for 2 hours and then calcined at 455°C in air for 4 hours. The pH of the catalyst obtained in this way was determined in a 10% strength aqueous suspension by means of a pH electrode as described in the present application. A pH of 9.8 was obtained.

2. The second experiment was carried out in a manner analogous to 1. except that a spheralite was used instead of γ-Al_2O_3. A pH of 9.9 was obtained here.